In re Appln. of: Dirk-Henning Menz

Appln. No.: 10/018,372

Attorney docket: 754-X01-003 (NEW)

Amendments to the Claims:

In summary, claims 1-11, 14, 16, 18-22 and 24 are canceled, and new claims 26-37 are added as follows:

Claims 1-11 (canceled)

12. (Previously presented) A plastically deformable implant for insertion into bodily orifices of a human or animal body, the implant formed by a gel which is not sealed and is directly introduced into a natural or artificially created bodily opening, with the gel having a polyaphron structure and comprising a fluorocarbon, water, and a minimum of one fluorinated surface-active agent of the general formula R_FF_{pol}, wherein:

R_F stands for linear or branched perfluoroalkyl groups with more than 5 carbon atoms;

R_{pol} stands for a polar hydrocarbon residue with a minimum of one functional group which is selected from the group consisting of CO-NH(R), CO-N(R)₂, COO-, COOR, SO₃-, SO₂N(R)₂, and CH₂-O-R, PO₂H, PO₃H (R = alkyl); and

the surface-active agent has a molecular weight of >400 g/mol, a surface tension in aqueous solution of <30 mN/m, an interfacial tension in aqueous solution with respect to the non-polar component of <25 mN/m, and a concentration of <0.3%.

- 13. (Previously presented) The implant of claim 12 wherein the fluorocarbon is a perfluorocarbon or a partially fluorinated alkane.
- 14. (canceled) The implant of claim 12 wherein the fluorocarbon is an oligomer.
- 15. (Previously presented) The implant of claim 12 wherein the surface-active agent is soluble in the fluorocarbon and contains linear or branched perfluoroalkyl groups with more than 5 carbon atoms, and wherein the fluorocarbon and the surface-active agent contain less than 30% of a fluorinated surface-active agent.

In re Appln, of: Dirk-Henning Menz Group Art Unit: 1615

Appln. No.: 10/018,372

Attorney docket: 754-X01-003 (NEW)

16. (canceled) The implant of claim 12 wherein the gel has a viscosity to density ratio greater than 0.1 Pa cm³/g and lower than 3 Pa cm³/g.

- 17. (amended) The implant of claim $\frac{16}{27}$ wherein the ratio is lower than 1 Pa cm³/g.
- 18. (canceled) The implant of claim 12 wherein after liquefaction the gel structure is reversible and can be completely restored.
- 19. (canceled) The implant of claim 12 wherein the implant is an ophthalmologic implant.
- 20. (canceled) The implant of claim 19 wherein the implant is a vitreous body or lens replacement.
- 21. (canceled) The implant of claim 20 wherein the implant is permeable by water-soluble and ionic compounds and has a refractive index in a range from 1.334 to 1.338 and a specific weight greater than 1.05 g/cm³.
- 22. (canceled) The implant of claim 12 wherein the implant is a dental implant.
- 23. (amended) The implant of claim 22 30 wherein the implant is configured and dimensioned for filling extraction cavities in the jaw bone.
- 24. (canceled) The implant of claim 12 wherein the implant is a tissue expander.
- 25. (amended) A method of performing oxygen therapy of treating tissue comprising the steps of inserting the an implant formed of in accordance with claim 12 into a bodily orifice located proximal the tissue to be treated, and treating the tissue to be treated with an oxygen therapy.
- 26. (new) (Previously presented) A plastically deformable implant for insertion into bodily orifices of a human or animal body, the implant formed by a gel which is not sealed and is directly introduced into a natural or artificially created bodily opening, with

Appln. No.: 10/018,372

Attorney docket: 754-X01-003 (NEW)

the gel having a polyaphron structure and comprising a fluorocarbon oligomer, water, and a minimum of one fluorinated surface-active agent of the general formula R_FF_{pol} , wherein:

R_F stands for linear or branched perfluoroalkyl groups with more than 5 carbon atoms;

 R_{pol} stands for a polar hydrocarbon residue with a minimum of one functional group which is selected from the group consisting of CO-NH(R), CO-N(R)₂, COO-, COOR, SO₃-, SO₂N(R)₂, and CH₂-O-R, PO₂H, PO₃H (R = alkyl); and

the surface-active agent has a molecular weight of >400 g/mol, a surface tension in aqueous solution of <30 mN/m, an interfacial tension in aqueous solution with respect to the non-polar component of <25 mN/m, and a concentration of <0.3%.

27. (new) A plastically deformable implant for insertion into bodily orifices of a human or animal body, the implant formed by a gel which is not sealed and is directly introduced into a natural or artificially created bodily opening, with the gel having a polyaphron structure, a viscosity to density ratio greater than 0.1 Pa cm³/g and lower than 3 Pa cm³/g. and comprising a fluorocarbon, water, and a minimum of one fluorinated surface-active agent of the general formula R_FF_{pol}, wherein:

R_F stands for linear or branched perfluoroalkyl groups with more than 5 carbon atoms;

 R_{pol} stands for a polar hydrocarbon residue with a minimum of one functional group which is selected from the group consisting of CO-NH(R), CO-N(R)₂, COO-, COOR, SO₃-, SO₂N(R)₂, and CH₂-O-R, PO₂H, PO₃H (R = alkyl); and

the surface-active agent has a molecular weight of >400 g/mol, a surface tension in aqueous solution of <30 mN/m, an interfacial tension in aqueous solution with respect to the non-polar component of <25 mN/m, and a concentration of <0.3%.

28. (new) A plastically deformable implant for insertion into bodily orifices of a human or animal body, the implant formed by a gel which is not sealed and is directly introduced into a natural or artificially created bodily opening, and

In re Appln. of: Dirk-Henning Menz

Appln. No.: 10/018,372

Attorney docket: 754-X01-003 (NEW)

wherein after liquefaction the gel structure is reversible and can be completely restored,

with the gel having a polyaphron structure and comprising a fluorocarbon, water, and a minimum of one fluorinated surface-active agent of the general formula $R_F F_{pol}$, wherein:

R_F stands for linear or branched perfluoroalkyl groups with more than 5 carbon atoms;

 R_{pol} stands for a polar hydrocarbon residue with a minimum of one functional group which is selected from the group consisting of CO-NH(R), CO-N(R)₂, COO-, COOR, SO₃-, SO₂N(R)₂, and CH₂-O-R, PO₂H, PO₃H (R = alkyl); and

the surface-active agent has a molecular weight of >400 g/mol, a surface tension in aqueous solution of <30 mN/m, an interfacial tension in aqueous solution with respect to the non-polar component of <25 mN/m, and a concentration of <0.3%.

29. (new) A plastically deformable ophthalmologic implant for insertion into bodily orifices of a human or animal body as a vitreous body or lens replacement, the implant being permeable by water-soluble and ionic compounds and having a refractive index in a range from 1.334 to 1.338 and a specific weight greater than 1.05 g/cm 3 , and formed by a gel which is not sealed and is directly introduced into a natural or artificially created bodily opening, with the gel having a polyaphron structure and comprising a fluorocarbon, water, and a minimum of one fluorinated surface-active agent of the general formula $R_F F_{pol}$, wherein:

R_F stands for linear or branched perfluoroalkyl groups with more than 5 carbon atoms;

 R_{pol} stands for a polar hydrocarbon residue with a minimum of one functional group which is selected from the group consisting of CO-NH(R), CO-N(R)₂, COO-, COOR, SO₃-, SO₂N(R)₂, and CH₂-O-R, PO₂H, PO₃H (R = alkyl); and

the surface-active agent has a molecular weight of >400 g/mol, a surface tension in aqueous solution of <30 mN/m, an interfacial tension in aqueous solution with respect to the non-polar component of <25 mN/m, and a concentration of <0.3%.

Group Art Unit: 1615

In re Appln. of: Dirk-Henning Menz

Appln. No.: 10/018,372

Attorney docket: 754-X01-003 (NEW)

30. (new) A plastically deformable implant for insertion into bodily orifices of a human or animal body as a dental implant, the implant formed by a gel which is not sealed and is directly introduced into a natural or artificially created bodily opening, with the gel having a polyaphron structure and comprising a fluorocarbon, water, and a minimum of one fluorinated surface-active agent of the general formula $R_F F_{pol}$, wherein:

R_F stands for linear or branched perfluoroalkyl groups with more than 5 carbon atoms;

R_{pol} stands for a polar hydrocarbon residue with a minimum of one functional group which is selected from the group consisting of CO-NH(R), CO-N(R)₂, COO-, COOR, SO₃-, SO₂N(R)₂, and CH₂-O-R, PO₂H, PO₃H (R = alkyl); and

the surface-active agent has a molecular weight of >400 g/mol, a surface tension in aqueous solution of <30 mN/m, an interfacial tension in aqueous solution with respect to the non-polar component of <25 mN/m, and a concentration of <0.3%.

31. (new) A plastically deformable implant for insertion into bodily orifices of a human or animal body, the implant formed by a gel which is not sealed and is directly introduced into a natural or artificially created bodily opening as a tissue expander, with the gel having a polyaphron structure and comprising a fluorocarbon, water, and a minimum of one fluorinated surface-active agent of the general formula R_FF_{pol}, wherein:

R_F stands for linear or branched perfluoroalkyl groups with more than 5 carbon atoms;

R_{pol} stands for a polar hydrocarbon residue with a minimum of one functional group which is selected from the group consisting of CO-NH(R), CO-N(R)₂, COO-, COOR, SO₃-, SO₂N(R)₂, and CH₂-O-R, PO₂H, PO₃H (R = alkyl); and

the surface-active agent has a molecular weight of >400 g/mol, a surface tension in aqueous solution of <30 mN/m, an interfacial tension in aqueous solution with respect to the non-polar component of <25 mN/m, and a concentration of <0.3%.

In re Appln. of: Dirk-Henning Menz Group Art Unit: 1615

Appln. No.: 10/018,372

Attorney docket: 754-X01-003 (NEW)

31. (new) Method for treating a human or animal body comprising forming an implant as defined in claim 12, and implanting said implant into a bodily orifice of a human or animal.

- 32. (new) Method for treating a human or animal body comprising forming an implant as defined in claim 26, and implanting said implant into a bodily orifice of a human or animal.
- 33. (new) Method for treating a human or animal body comprising forming an implant as defined in claim 27, and implanting said implant into a bodily orifice of a human or animal.
- 34. (new) Method for treating a human or animal body comprising forming an implant as defined in claim 28, and implanting said implant into a bodily orifice of a human or animal.
- 35. (new) Method for treating a human or animal body comprising forming an implant as defined in claim 29, and implanting said implant into a bodily orifice of a human or animal.
- 36. (new) Method for treating a human or animal body comprising forming an implant as defined in claim 30, and implanting said implant into a bodily orifice of a human or animal.
- 37. (new) Method for treating a human or animal body comprising forming an implant as defined in claim 31, and implanting said implant into a bodily orifice of a human or animal.